Committee on Resources

Testimony

Subcommittee on Water and Power
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Testimony of
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before the
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Summary

Residents of the Pacific Northwest have been embroiled in a quest to recover salmon in the Snake and Columbia rivers. At $435 million per year, Northwesterners are funding the most expensive federal recovery program in the history of the Endangered Species Act, and today regional resources are becoming strained while results prove dismal. Although the 1997 salmon run appears to show a dramatic rebound, it is an anomaly as salmon continue their general decline throughout this basin and throughout the western United States. Now, an ever-increasing disenchantment pervades the Northwest with the leadership of the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service and our state fishery agencies, and some advocacy groups are calling for the dismantling of four Snake River Dams and the recreation of a free-flowing river.

The Columbia River Alliance for Fish, Commerce and Communities believes the historical uses of the river: hydroelectric generation, navigation, irrigation, flood control, and recreation, can co-exist with healthy salmon runs. Dam removal advocates lack scientific support for their idea and the resulting economic impact would be great. CRA members believe we are at a crossroads and it is time to make a decision on the way to recover endangered salmon. Once the relevant scientific data and economic and societal impacts are considered, the region will adopt a path recommended by two blue-ribbon, independent scientific groups, a program that reduces recovery costs while providing the highest survival rate for salmon.

Testimony My name is Bruce J. Lovelin. I am the Executive Director of the Columbia River Alliance for Fish, Commerce, and Communities, an association of agriculture, navigation, electric utility, labor, forest products, manufacturing, and community organizations. (Enclosure 1--membership list) Our membership believes that a multi-purpose Columbia and Snake River system can co-exist with healthy salmon runs. We believe salmon recovery must be scientifically based, cost-effective, and economically affordable. Our membership supports a salmon recovery plan proposed by the National Marine Fisheries Service (NMFS) Snake River Salmon Recovery Team (the Bevan Team) and endorsed by the National Research Council. This plan includes continued development of improved salmon barging and dam passage, and curtailment of spill and flow augmentation. The resulting recovery plan would cost far less than the current NMFS $435-million-per-year plan, provide the best chance for salmon recovery, and preserve our use of one of the greatest renewable resources in our nation: the Columbia and Snake river system.

Pacific Northwest Dams are Vital to Regional, National Interests

The Columbia and Snake river hydropower dams are the single most important economic and societal asset in the Pacific Northwest and is a $30 billion annual economic engine. Linking the four states of Oregon, Washington, Idaho, and Montana, and to a lesser extent even the nation of Canada, the series of federal dams on these rivers provide many benefits to the citizens, communities and businesses of our region.

A vocal minority have called for the removal of several large dams, hoping a "more natural" system would lead to higher salmon populations. But the opinions of some of our nation's finest scientific minds agree natural river level reservoir drawdowns, essentially dam removal, may do more harm than good, would devastate the surrounding ecosystems, and could detract from more meaningful, helpful salmon recovery efforts.

I. Dams are Important to the Pacific Northwest

Columbia and Snake river dams are engineering feats built at great expense to benefit future generations throughout the Pacific Northwest. They provide benefits to all Northwest citizens, benefits that ripple through every sector of the population. They provide:

Protection of our Region from Floods

Before the construction of dams, flooding was routine throughout the Columbia Basin's low-lying areas. Even after Bonneville and Grand Coulee dams were constructed, the 1948 Vanport flood created massive property damage and loss of human life. In 1997, the basin's runoff forecast is anticipated to exceed that of 1948. Last week, high water runoff levels in the Columbia and Snake rivers triggered flood warnings throughout the Northwest, prompting Idaho Governor Phil Batt to call on the state's National Guard to help communities prepare for flooding. Despite this high runoff, dam operations prevented flooding of the region.

Although the current system of dams provides confidence against floods, it is not highly regulated; the system can only store 20 percent or 42 million acre feet of its 198 million acre feet annual runoff (System Operation Review (SOR), Power, 2-1,2).

The four lower Snake River dams are considered "run of the river" dams that are generally operated within a very limited range that passes river inflow. Traditionally, these dams do not have flood control capability. In 1997, however, the Corps of Engineers prepared a contingency operation of Lower Granite Dam that would have lowered the reservoir below its Minimum Operating Pool elevation under certain high river flow conditions to prevent flooding over the Lewiston levees. This is an example of how the lower Snake River system's multi-use dams and the integrated system of hydroelectric projects can be flexibly operated to prevent catastrophic harm to property, wildlife, and humans.

Annual Commercial River Navigation of More Than $10 Billion

The dams created a water highway that stretches from inland Idaho to Portland and transports billions of dollars in agricultural products and other commodities each year. This system benefits not only the Pacific Northwest but the entire U.S. and the world, and helps our nation maintain its balance of trade. More export cargo moves through the river than through any other port system on the west coast. More than 12 million tons of wheat, corn and forest products are shipped each year to Japan, for example.

Elimination of commercial navigation to Lewiston and Clarkston would have severe economic consequences to these local communities. The ports of Lewiston, Clarkston, and Whitman County and associated businesses would lose $35.6 million annually from river transportation activities and a portion of an additional $81.3 million in other port industrial activities. Job losses include 1,580 jobs from the water transportation sector and many of the 3,249 jobs from other port industrial activities (Tri-Port Economic Impact Study, May, 1997). For the tri-port area of Washington and Idaho, these losses would be significant.

The success of grain exports to international markets from lower Columbia ports is due to the reliable and affordable delivery of products from the 26 elevators along the Columbia and Snake rivers. Elimination of one important part of this system could have dire economic consequences because international grain sales are highly competitive and require timely delivery at affordable costs. The availability of barging from the Lewiston/Clarkston area gives Idaho and Washington farmers a cost-effective means to ship grain to market. Transportation of a bushel of grain costs 18-19 cents by barge, 30-38 cents by rail, if available, and 42-54 cents by truck.

Barging is also a fuel-efficient way to move these goods. An entire ton of commodity can be barged 514 miles on one gallon of fuel, compared to 202 miles by rail and 59 miles by truck. If barge navigation were halted, an additional 120,000 rail cars would be required, the equivalent of 700,000 semi trucks. Barging produces only a fraction of the air pollution emitted by trucks and trains. Transporting goods by rail would increase vehicle emissions by 470 percent; transporting goods by truck would raise vehicle emissions by 709 percent.

Turning Desert to Income-Producing Irrigated Farmland

The development of irrigation has transformed interior Idaho, Washington, and Oregon from deserts to some of the most productive farmland in the world. There are currently 7.3 million acres of irrigated farmland in the region, and dams provide the water for about one-half of these acres as well as affordable power for required pumping. In 1991, crop and livestock sales amounted to $9.7 billion in the region, providing countless jobs not only in production but in processing, shipping and sales.

Thirty-one active municipal, irrigation and industrial water supply stations use Snake River water. A drawdown would cost $35.1 million in capital costs for modifications and an additional $2.1 million annually for operation and maintenance (System Configuration Study (SCS) - Phase II, 6-9). Thirteen farms pump from the Ice Harbor reservoir to irrigate approximately 35,000 acres in eastern Washington. In addition, the affordable power rates provided by the Bonneville Power Administration over the last 60 years has been a major factor in the development of Northwest irrigated agriculture. Loss of the lower Snake River dams would push electric rates higher and reduce the economic viability of irrigated agriculture.

Hydropower: A Reliable, Affordable and Renewable Energy Source

About 75 percent of the electricity used in the Northwest is provided by the federal Columbia and Snake river hydropower system. Hydropower is an efficient, renewable source for energy production, and does not produce the unwanted environmental effects of coal, natural gas and nuclear power plants.

Drawdown of the lower Snake River dams would reduce annual hydropower generation by 945 average megawatts (SOR, Power, 5-1). When combined with the capacity losses, drawdown would result in higher regional energy costs of $248 million per year. The lower Snake dams produce power at 5 mills per kilowatt hour (« cent) and is resold at 23 mills per kwh, providing revenue to support BPA's fish and wildlife and

other social programs and supply system nuclear debts. Without the revenue of these projects, BPA's future becomes doubtful.

Recreational Opportunities Add to the Northwest Quality of Life

River-related recreational activity created by the dams' reservoirs adds hundreds of millions of dollars to our region's annual economy, and includes reservoir boating, waterskiing, fishing, swimming, camping and picnicking. In 1991, a regional population of about 9 million made more than 21 million "visits" to the Columbia and Snake river recreation sites, a 35 percent increase over the number of visits four years before. The lower Snake River system would lose about $23 million annually in reduced recreational opportunities if a lower Snake River natural drawdown is implemented (SCS-Phase II, 6-8).

II. Why Lower Snake River Drawdowns are Unnecessary

1. Deep reservoir drawdowns would devastate the ecosystems built on current reservoirs.

Reservoirs are alive with fish, wildlife and an environment that is dependent on the maintenance of the reservoir elevation levels. Suddenly instituting deep reservoir drawdowns would displace the fish and wildlife dependent on the reservoir and the water channel below the dam. Sediments from potentially toxic compounds would be displaced and redistributed throughout the river system. Furthermore, large dams have never been deactivated and it is unknown how long it would take for a new, stable ecosystem to be created.

2. Deep reservoir drawdowns to recover endangered salmon are not necessary.

Implementing holistic measures that improve survival in each of the salmon's life stages can produce better benefits than those hoped-for through reservoir drawdown. Even if this approach is determined to be the best for the region, it would take much time and money to implement. According to the Bevan Team, "these precious resources could be put to better use by immediate implementation of other recovery measures with a high probability of biological payback and without the political and social costs of dam removal."

3. Dam operations are vastly improved

Operation of the lower Snake River and Columbia River dams have improved since the 1970s, when high salmon mortality rates were associated with hydropower generation. Today the dams are operated within a 1 percent "peak efficiency" level, causing relatively little harm to salmon that do travel through the turbines. In addition, deflector screens aid in pushing juvenile migrating salmon away from turbine intakes, so few salmon actually go into the turbines. Much of the criticism regarding the dams focuses on the survival of salmon in what has been described as "stagnant, slack water pools." But scientific studies indicate that survival through the reservoirs is very high, upwards of 98-99 percent. The Corps of Engineers is currently examining spill abatement facility construction and prototype of more "fish friendly" surface collector systems to improve survival past the dams.

4. What is unproven remains unfunded

Congress, the Bonneville Power Administration, Northwest electric ratepayers and the public have been unwilling and/or unable to dedicate the necessary resources to the idea's enormous costs and unproven benefits. Again as the Bevan Team stated, this is a contentious issue that will result in moving immediately beneficial measures to a lower priority. The CRA concurs and has asked the Clinton Administration and

Congress to eliminated this proposal from further consideration and move the region toward more meaningful, scientific based solutions.

5. Drawdown would eliminate salmon transportation

Deep reservoir drawdown would eliminate one of the most effective and important tools for salmon survival: smolt transportation or barging, which has demonstrated survival rates of 2 to 1 over in-river migration in all 13 scientific studies deemed statistically significant ("Return to the River," 1996, Enclosure 2). Even partial 1997 wild adult salmon returns to Lower Granite dam have given a 2.7 to 1 ratio of transported fish over in-river migration. This means wild fish transported in barges as juveniles survived at a rate 170 percent greater than those juvenile fish that migrated in river. No scientific group says deep reservoir drawdown could provide the 170 percent survival increase necessary to bring salmon survival to the current level provided by the transportation program. Both the Bevan Team and the National Research Council endorse the continuation of salmon smolt barging.

6. Flow/survival relationship uncertain

The principle justification for drawdown has been improved (reduced) travel time to the ocean for juvenile salmon. But both past and recent studies conclude that the flow/survival relationship is uncertain and has been misinterpreted. The current theory proposed by the Northwest Power Planning Council's Independent Science Group's report, "Return to the River," is that a "normative" river that would recreate habitat more conducive to salmon population growth. The Independent Science Group does not, however, call for Snake River reservoir drawdown.

7. Salmon suffer high natural mortality, drawdowns can't improve upon nature

The salmon's decline is a result of many factors, both natural and human caused. The sustained drought, El Nino ocean conditions, and high numbers of salmon predators create high natural mortality. This mortality, combined with flawed hatchery and harvest management strategies, failure of government officials to deal with marine mammals and gill net harvest, habitat impacts and dam operations have created the current depressed state of Idaho salmon. Factors within our control need to be addressed, while factors outside our control need to be better understood. Until then, the region is simply "shooting in the dark" by pursuing the draconian proposal of deep reservoir drawdowns.

III. A John Day Reservoir Drawdown Provides Few Benefits for Salmon

In a December 23, 1996, letter to Brigadier General Robert Griffin, NMFS Regional Director Will Stelle said advance planning and design for a John Day reservoir drawdown should occur as quickly as possible. A drawdown to spillway crest of the John Day reservoir would reduce its elevation by 59 feet. A natural river drawdown would reduce the reservoir's elevation by 106 feet. A drawdown of the John Day reservoir to spillway crest or natural river level would affect every segment of our region and most of its population. The impacts are great.

Biological Impacts

A John Day pool drawdown would dry up 95 percent of the marsh and riparian habitat in the mid-Columbia region. It would destroy the wetlands of the Umatilla National Wildlife Refuge and all its wildlife, including resident and anadromous fish rearing and feeding habitat. The drawdown would impact aquifer levels for the

Umatilla and Irrigon fish hatcheries, hatcheries left unable to raise fish.

> **While drawdown will reduce the cross-sectional area of the reservoir, it will also reduce the shoreline and reduce the area of wetlands. Several major wildlife refuges (Umatilla Wildlife Refuge, Willow Creek and Irrigon wildlife areas) will be impacted by lowering the ground water levels in areas adjacent to the river, drainage of water from established marshes, and exposure of shallow water habitat areas due to drawdown.** --Bevan Team, the NMFS Snake River Salmon Recovery Team

Flood Control Impacts

John Day is used each year to regulate flooding in the Portland/Vancouver area. John Day is the closest flood control project to the Portland/Vancouver area, and its proximity to Portland makes it able to impact Portland's Columbia and Willamette river levels in only 12-18 hours. Without John Day, flood control could not be impacted for an additional 380 miles upriver at Grand Coulee. During the February, 1996, flood, the John Day reservoir was used to hold back about 70,000 cubic feet per second, which kept Portland's river levels lowered by 1-1.5 feet. The river level in Portland peaked at a stage of 28.6 feet at 5 p.m. on February 9, 1996, within only inches of flowing over the retaining wall (28.9) feet and flooding downtown Portland.

> **"Storing water in the John Day reservoir during the February, 1996, flood event stopped the flooding of the City of Portland and many square miles of the surrounding areas."** --Technical Memorandum, "Impacts of Natural River Operations at John Day by Russell George, water management consultant

Economic Impacts

The cost of a five-foot drawdown of John Day reservoir exceeds $170 million, a deeper drawdown to spillway crest $713 million to $966 million. The drawdown's costs would include those to water users, including irrigated farming, navigation, recreation and power production so severe that federal river managers rejected the option outright in its assessment of river system operations alternatives. Even in its own biological Opinion, NMFS states that the "expected impacts of spillway crest drawdown, as compared to existing passage conditions, have more potential to be negative than positive."

Recreational Impacts

Ninety percent of the reservoir's recreational use would be eliminated. A John Day drawdown to spillway crest or natural river level would eliminate the recreational uses of the reservoir and decrease by over 90 percent the reservoir's 196,000 annual recreation visits.

> **"Virtually none of the existing water-based recreation facilities, including boat ramps, marinas, boat docks and swimming beaches, would be useable at any time of the year."** --System Operation Review, Final Environmental Impact Statement, p. 4-37

Navigation Impacts

More than $10 billion in commerce and up-river navigation would be eliminated. A drawdown below Minimum Operating Pool elevation would render river transportation above Portland impossible. It would threaten $10 billion in annual regional commerce and impact one-third of U.S. wheat exports. It would

increase regional transportation costs by $25-30 million per year, creating impacts on regional farmers and the region's river-dependent communities from Portland to Lewiston.

> **"Because John Day pool would be below MOP (minimum operating pool), only intra-pool transportation would be possible."** --SOR, Final EIS, p. 4-38

Irrigation Impacts

Irrigation from the John Day pool would be rendered almost impossible by a spillway crest or natural river drawdown, and would leave 150,000 acres of precious and productive farmland useless, threatening $400-600 million in annual farm value. Drilling wells to aquifers may be necessary because modifying the existing pumping structures would not be possible.

> **"A buy out of the irrigated farms could be considered...the buy out would range from $83.7 million to $125.5 million."** --SOR, Final EIS, p. 4-40

Power Impacts

The region's power generation ability would be reduced significantly and require acquisition of 8,500 average megawatts from combustion turbines. The John Day power house is the third largest hydroelectric project in the Pacific Northwest. If the Columbia River at John Day is lowered to natural river level, the energy and capacity produced by its power house would be reduced to zero. The Northwest would lose 1,214 megawatts of annual energy and about 24,000 megawatts of annual capacity, equating to an annual loss to the Bonneville Power Administration of more than $255 million.

> **"Capacity costs could run...hundreds of millions of dollars, leading to a total regional cost...in excess of $1 billion per year."** --SOR, final EIS, page 4-30

IV. The Northwest Salmon Recovery Crossroads

In its October, 1996, report to the Corps of Engineers, independent consultant Harza Northwest provided valuable information to help federal and state officials decide the future path of salmon recovery. Harza suggests the region is at a salmon recovery crossroads. So does the CRA; we believe the time to make a formal decision is now because sufficient information exists to choose the path that provides the best hope for the salmon while maintaining our region's economic health. Enclosure 3 illustrates the possible paths of Snake River salmon recovery and the anticipated resulting impacts.

Path A: Dam Removal Provides Few Benefits

While advocates believe lower Snake River dam removal as the "silver bullet" for Idaho's declining salmon, no scientific body supports it. Of the three paths, Harza predicts this option would produce the lowest juvenile salmon survival rate, a rate of 66 percent from Lewiston to Bonneville Dam. In addition, adult travel time to spawning grounds increases from 10-30 percent.

At a cost of $585 to 835 million per year, excluding commercial navigation economic impacts, this plan is well beyond the region's ability to fund. Removal of the lower Snake dams would result in the Bonneville Power Administration's wholesale power rates increasing by 3-4 mills per kilowatt hour to 25 to 26 mills per kilowatt hour. BPA's wholesale customers will look to other more competitive power suppliers leaving BPA and the federal government to fund the current debt.

Irrigation water supplies are eliminated and the upriver ports, and the people dependent on a navigable river, become landlocked.

Path B: The "Spread the Risk" 1995 Biological Opinion Path is Risky for Salmon

The path prescribed by the NMFS, the 1995 Biological Opinion, requires continued flow augmentation from Idaho, Montana, and Canada reservoirs, dam spills, and reduced barging of juvenile salmonids. Harza calls this approach "biological inefficient" as it funds programs that lead the region in opposite directions, promoting both in- river migration and juvenile salmon barging. This plan costs the region $435 million per year and creates a decision point in 1999 when NMFS will decide a future salmon recovery path: dam removal/drawdown or continued barging.

The 1999 decision point is too late for BPA customers to decide their post-2001 power supplier and, given this uncertainty, customers will look beyond BPA to other power suppliers for predictable power costs and supply. "Spread the risk" may be the easiest political approach for the NMFS, but it is economically and biologically inefficient.

Path C: Dam Passage Improvements: Higher Survival at the Least Cost

Harza suggests the construction of surface collectors and continued barging would result in twice as many adult salmon. Also, it would cost northwesterners the least cost of $235 million per year because costly spill and flow augmentation measures would no longer be necessary. This approach would improve BPA's competitiveness, renew customer confidence and provide more reliable long-term salmon program funding. Harza estimates that the resulting juvenile salmon survival would be 80 percent from Lewiston to Bonneville Dam. Traditional uses for the Columbia and Snake River system would be retained.

V. Where Do We Go From Here? Bennett v. Spear

Litigation has been used as a tool by environmental activists to pursue their agendas on Endangered Species Act issues. Several endangered Snake River salmon lawsuits have been filed by environmental and commercial fishing groups and the states of Oregon and Idaho. CRA members have repeatedly been denied standing by the courts, allowing NMFS to implement a strategy barren of scientific and economic accountability.

On March 19, 1997, the U.S. Supreme Court overturned a Ninth Circuit Court of Appeals decision denying economic interests standing in ESA lawsuits. The Supreme Court decision in Bennett v. Spear now means economic interests can participate in ESA lawsuits. In the most recent round of Northwest salmon litigation, American Rivers v. NMFS, U.S. Department of Justice attorney Fred Disheroon acknowledged the Supreme Court's ruling in discussing the NMFS' duties when formulating "reasonable and prudent alternatives" in ESA decisionmaking: "...as Justice Scalia recently pointed out, when they are doing that they are to take into account not only the needs of the fish, but [also] the economic effects that may be a result."

We believe the ESA and the federal regulations implementing it have always called for federal fish and wildlife officials to make decisions that consider economic interests and strike a reasonable balance between the needs of endangered species and human needs. It has always seemed senseless to CRA and its members, for example, to pursue theories about the impacts of flow on salmon that require the expenditure of millions of dollars per fish, while allowing the same salmon to be caught and sold for a fraction of their value to the region. So long as economic interests were locked out of court, federal fishery officials were free to cause

what Justice Scalia termed "needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives."

Unfortunately, NMFS continues to refuse to acknowledge the Bennett v. Spear decision or a sensible interpretation of the ESA. It continues efforts to exclude affected interests from ESA decisionmaking, using the excuse that only "sovereigns" with management responsibility over salmon should be allowed to participate directly in crafting salmon recovery plans. In practice, however, this means the fishery agencies are given free rein over economic sectors without regard to the cost effectiveness of recovery measures, leaving litigation as economic interests' only opportunity to participate.

Economic interests can bring practical intelligence to the salmon recovery table, and determine prioritization of scarce salmon recovery resources, maximizing the benefits to salmon. Refusal to consider cost-effectiveness and quantification of benefits to salmon sets the stage for legal struggles to come. CRA has filed a 60-day notice of intent to sue the federal government for its refusal to allow Northwest economic interests, CRA members, to participate in the river operations/salmon recovery process.

VI. Conclusion

The Pacific Northwest is poised to leap down one of these two salmon recovery paths: reservoir drawdown/dam removal or improved salmon passage. Biologically, the choice is clear: no credible scientific body advocates the extreme measure of reservoir drawdown or dam removal as the means to move juvenile and adult salmon up and down the river system. Scientists do, however, advocate improved collection and barging of juvenile migrating fish. Economically, the choice is again clear: while deep reservoir drawdowns and dam removal would unravel the economic engine of our region, improved salmon passage measures would actually save Northwest residents millions of dollars per year and preserve the multi-use river system.

Thank you for the opportunity to provide testimony.

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